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Title : **GOCE L1b Data Quality Control Report
August 2013**

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1. INTRODUCTION

1.1 Purpose and Scope

This document contains the Quality report for GOCE L1b data for August 2013.

The latest version of this document is available on the GOCE Data Quality portal at:

<http://earth.esa.int/GOCE/> → “Level 1b QC” → “Monthly”

The GOCE Data Quality portal is the principal source for any quality-related information on GOCE products.

<http://earth.esa.int/GOCE/> → “Level 1b QC”.

1.2 Glossary

The following acronyms and abbreviations have been used in this report.

ABBREVIATION	MEANING
EGG	Electrostatic Gravity Gradiometer
DFACS	Drag Free and Attitude control system
SST-I	Satellite-to-satellite tracking instrument
CTR	Control Voltages
STR	Star Tracker
Trace SD	Trace Spectral Density
ICM	Inverse Calibration Matrix
GAR	Gradiometer Angular Rates
FPM	Fine Pointing Mode
MBW	Measurement Bandwidth

2. AUGUST 2013 OVERVIEW

02-Aug-13	An outlier in the gravity gradients matrix is found at 02/08/2013 at 07:11:88.
22-Aug-13	Beam Out event at UTC 10:12:53 with impacts on performance.
24-Aug-13	Outlier in the gravity gradients matrix is found at 08:10:45.
29-Aug-13	Fallback to Fine Pointing Mode
30-Aug-13	Fallback to Fine Pointing Mode: recovering activities. Science operations resumed at 13.45

3. AUGUST 2013 DATA QUALITY ANALYSIS

3.1 Beam Out events

The following Beam Out events occurred during August 2013 reference frame:

EVENT	UTC TIME
22-Aug-13	Beam out event at UTC 10:12:53

Table 1 Beam out events

The effects of a Beam Out event are clearly visible in the common mode acceleration, component 14_x, as a sharp peak in the acceleration values. The effect is the same as reported in previous monthly reports.

3.2 Gradients outliers on 02nd August

An outlier affecting the gravity gradients occurred at UTC 02/08 07:11:88. Below the gradients time series which show the event:

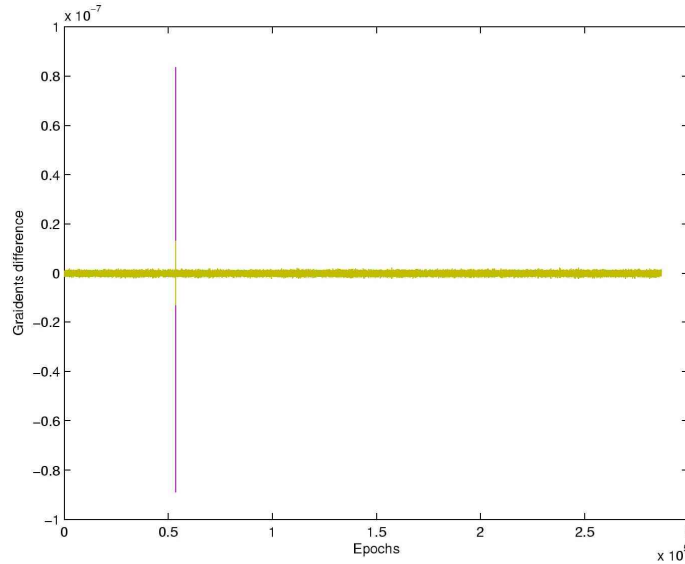


Figure 1 Gradients time series

The angular rates time series and the trace PSD are reported, showing the effects of the outlier:

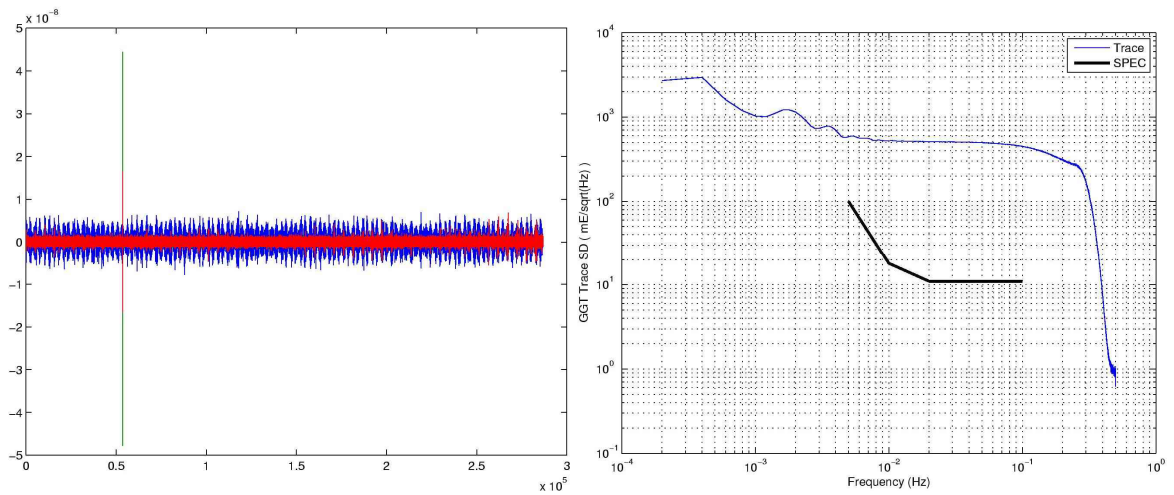


Figure 2 AR time series (left) and trace PSD (right)

3.3 Gradients outliers on 24th August

An outlier affecting the gravity gradients occurred at UTC 24/08 08:10:45. Below the gradients time series which show the event:

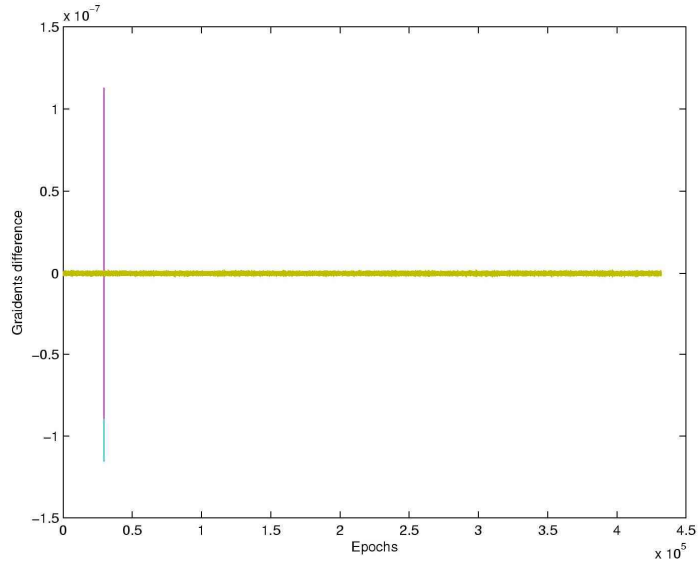


Figure 3 Gradients time series

The angular rates time series and the trace PSD are reported, showing the effects of the outlier:

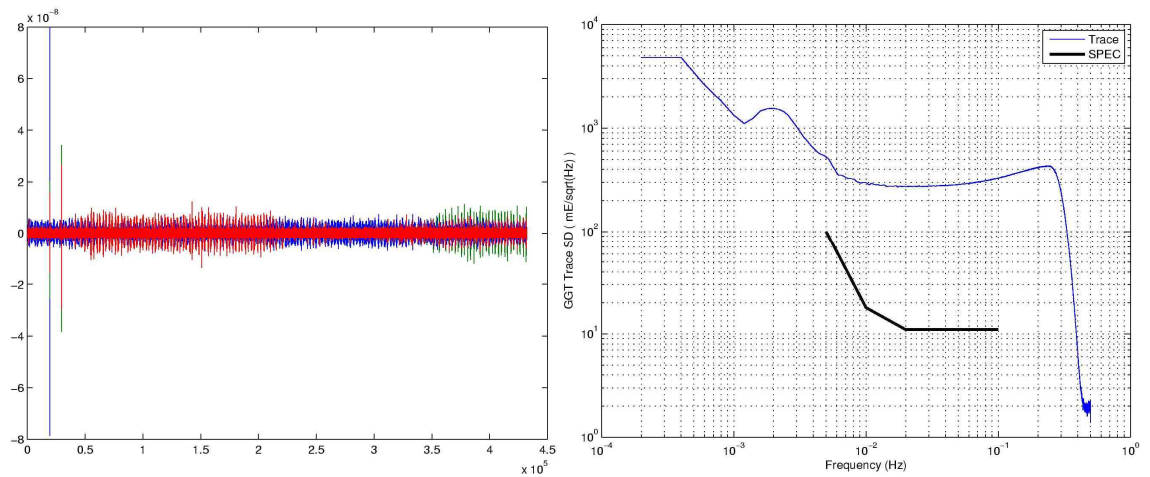


Figure 4 AR time series (left) and trace PSD (right)



3.4 Fallback to FPM

A fallback to FPM occurred on 29th August. The whole day and the next one as well were used to resume the science operations which re-started on 30th August at 13:45. Data during those two days have bad quality.